



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,814	03/03/2004	Hua Zhang	88265-7697	1494

29157 7590 12/01/2006

BELL, BOYD & LLOYD LLC
P. O. BOX 1135
CHICAGO, IL 60690-1135

EXAMINER

LEFF, STEVEN N

ART UNIT PAPER NUMBER

1761

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,814

Applicant(s)

ZHANG ET AL.

Examiner

Steven Leff

Art Unit

1761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/03/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- With regard to claims 1-20 it is unclear as to what is being claimed. As presently written it is unclear as to what is included or excluded by the claims. Applicant is urged to maintain consistency when describing the same item. For example, it is unclear as to whether the heating attachment, the shield, and the attaching member all represent the same item or different items. Further claim 19 refers to a “packaged unit” and a “package”.
- Claims 17-20 recite the limitation “the heating assembly”. There is insufficient antecedent basis for this limitation in the claim. Claim 17 clearly distinguishes a difference between the heating assembly and the heating attachment.
- Claim 14 is indefinite due to the phrase “a bottom side of the heating space”. The bottom side could represent an actual defined space within the bottom, the bottom of a single material, the bottom side of a two-piece material, or the side of the heating attachment on the bottom.
- Claims 3, 5-7, 9-11, and 15-18 recite the limitation “the container” of claim 1. There is insufficient antecedent basis for this limitation in the claim. With regard to claims 3, 5-7, 9-11, and 15-18, claim 1 describes an “attachment member configured for attaching the shield to a food container...” The subsequent claims refer to the container of claim 1 however claim 1 does not define a container. Claim 1 defines an attachment configured for attaching to a container.
- Claim 11 recites the limitation “the cradle” of claim 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 does not disclose a cradle.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- Claims 1-4, 9, and 11-19 are rejected under 35 U.S.C. 102(b) as being anticipated by De La Cruz. (5416304)

De La Cruz teaches “A microwave-reflective device and method for enhancing microwave heating of food items. The microwave-reflective device comprises an upstanding, microwave-reflective wall. During cooking, the microwave-reflective device is maintained about the periphery of the food item, while the space inward and above the wall may be maintained free of obstructions to microwave radiation.” (abstract) “The device has been found to improve the rate and uniformity of heating of food items in various applications.” (col. 3 line 1+)

“The reflective device comprises a strip of aluminum foil having a short length of adhesive tape joining the ends and of the strip.” (col. 5 line 55+) or could “be made from a strip of aluminum foil 10 having complementary slits 12 formed adjacent its opposite ends to enable the ends to be joined to form the strip into a substantially circular, cylindrical upstanding wall.” (col. 4 lines 49+) With regard to claim 5, figure 6 illustrates a support as well as the attachment. The adhesive tape used to join the two ends could be ripped apart at the conclusion of heating in order to access the food container.

“It has been observed that variation of dimensions of devices in accordance with the invention has resulted in variations in performance. It is believed that the variations in performance are due in part to resonances occurring at certain dimensions of the device. In particular, it is believed that improved performance is in some cases related to selection of the dimensions to achieve a resonance, i.e., generation of a standing wave of electromagnetic energy within the food item surrounded by the device, with nodes of the standing wave being substantially coincident with the upstanding wall while the food item remains in its frozen state. The standing wave is believed to be one component of a plurality of different modes of electromagnetic radiation in the cavity.” (col. 8 line 19+) “With regard to a food item in a microwave oven emitting microwave electromagnetic radiation at about 2.45GHz,” (clm. 1) “the device has a diameter of at least 12.2cm.” (clm. 2) It is believed that improved results may be obtained for certain food items where the device is dimensioned specific to the food item. (col. 8 line 43+)

The food item may be contained within a plastic tray, (col. 5 line 67) and the heating device can be folded to allow for easier packaging. (col. 5 line 60+)

One specific example disclosed is that “the device surrounds a substantially square frozen food item at close proximity to the periphery thereof. The device of has been successfully tested in conjunction with Budget Gourmet.RTM. "oriental rice with vegetables" entrees having a height of about 4 cm., and horizontal dimensions of about 10 cm., and with the height of the device 48 being substantially the same as that of the frozen food item.” (col. 5 lines 33+)

Therefore with regard to claims 1-4, 9, and 11-20, De La Cruz teaches all of the limitations of the heating attachment. Although the terminology is slightly different when describing the optimal resonating layers, and achieving these layers, De La Cruz teaches the same dimensions with regard to the heating attachment, as well as disclosing that the dimension are specific in order to accomplish the shared goal of applicant and De La Cruz to achieve resonance for its art recognized and applicants intended function.

- Claims 1, 3-5, 7-11, and 14-20, are rejected under 35 U.S.C. 102(b) as being anticipated by McGeehins (4763790).

McGeehins teaches a package for use in microwave and/or grill cooking with the “provision of a skirt positionable in relation to a container which is microwavable... The skirt may simply be a loose fit over the container, or it may for example be a metallic foil which is folded or crimped around the container but in either case the skirt will be constructed and designed so as to have a shape to be used in conjunction with an appropriately shaped container.” (col. 1 line 68+)

“Typically, the container and its contents would probably be sold in a package, that package according to the invention would contain a loose skirt, which may be a band of aluminium foil folded to flattened condition so that it takes up little or no space in the package.” (col. 2 line 9)

“The skirt is a strip of aluminum foil of endless form and provided with slits (which slits are optional and may be omitted) which extend part way through the width of the band for a purpose to be explained. The length of the skirt is slightly greater than the length of the largest peripheral circumferential dimension of the tray.” (col. 3 line 5+)

McGeehins further teaches that the user opens the skirt and places it over the tray so that the slits extend upwardly from the corners of the tray. The skirt portions between the slits are then folded over so as to cover the upper flange of the tray. The depending portions of the skirt cover the outer surfaces of the walls of the tray. (col. 3 lines 21+) The tray itself is a thermoformed microwaveable container made from PET. (col. 3 lines 2+)

With regard to claim 10, McGeehins teaches the use of slits in conjunction with the attachment. The slits allow for the flaps (18a fig. 2) to be deflected backwards with respect to the container, thus creating a ledge for the container to rest on. The peripheral lip of the container can then rest upon the ledge allowing the flaps to be folded over the top of the containers lip.

Therefore McGeehins teaches all of the limitations with respect to claims 1, 3-5, 7-11, and 14-20.

- Claims 1, 3-11 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Peleg. (5247149)

Peleg teaches a disposable tray-like receptacle which supports a pizza pie and includes a corrugated paper layer laminated to the susceptor sheet for supporting the pizza pie above the bottom wall of the microwave oven. By separating the pizza pie away from an inner surface of the microwave oven, more microwave energy is directed through the pizza pie so as to reduce the time required to complete its cooking and reconstitution. (col. 4 lines 34+) The base includes upstanding susceptor corner heat tabs which are interconnected to the eight edges of the susceptor base along cut lines or serrated seams. By incorporating these seams, the susceptor sheet, and paperboard blank, can be folded into a collapsed condition, for packaging, and can be manually expanded into the operative heating configuration. (col. 11 line 27+)

Therefore with respect to claims 1, 3-11 and 19-20 Peleg teaches all of the limitations.

- Claim 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et. al. (20030189042)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Zhang teaches a method for ensuring a more uniform heating of food by microwaves comprising: providing food in a portion having a predetermined size and shape; providing a container adapted for receiving and reheating the portion of food in a microwave oven. The container includes a supporting cavity consisting of peripheral sides and a bottom side, with the peripheral sides of the container being circumferentially shielded by a microwave reflective material such that the microwave reflective material on the peripheral sides forms a circumference having axial and transverse distances that are determined so as to change the wavelength of

resonant modes in the supporting cavity. The microwave reflective material is configured as a band and a portion of food is placed in the supporting cavity. The band causes heating of the food and container with microwaves of changed wavelengths. These changed wavelengths of resonant modes in the cavity thereby resulting in a more uniform heating food pattern and a more uniform heating of the food. (clm.1)

Zhang further teaches a method for quickly and evenly reheating food, in particular frozen food, with microwaves, in particular those provided by a conventional microwave oven that is 2450 MHz. (par. 0032) “The distances A and T of the band are determined to provide a shortening of the wavelength when the food plate, as surrounded by the band 3, is heated in the microwave oven. Therefore, reflection or transfer of the microwave beam is not the primary effect that is sought. The primary effect that is sought is related to the modification of the propagation of the waves in the dielectric food material between two or more conductors that support a certain number of electromagnetic waves. These waves have a uniquely defined voltage, current and impedance. Waveguides, often consisting of a single conductor, support transverse electric (TE) and/or transverse magnetic (TM) waves, characterized by the presence of longitudinal magnetic or electric, respectively, field components. Therefore, the principle of the invention is to look at determining the boundaries of the band that acts as a waveguide so that high power TE modes of even density are primarily induced. More particularly, TE.sub.nm modes of evenly distributed density such as TE.sub.01, TE.sub.11, TE.sub.21 are primarily supported while TE.sub.nm or TM.sub.nm modes of less evenly distributed density such as TE.sub.31, TE.sub.41, TE.sub.51 or TM.sub.31 are preferably discarded.” (par. 0039)

“In order to promote domination of the desired TE modes, it has been found that the transverse distance T of the resonating band should be of 15 cm or less, preferably lower than 13 cm, even preferably ranging of from 6 to 12 cm. Similarly, the axial distance A of the band should be of 20 cm or less, preferably lower than 18 cm, even preferably ranging of from 6 to 15 cm.” (par. 0040)

Zhang further teaches the uses of a food container assembly adapted for receiving and reheating of a food portion with microwaves, which comprises a food portion and a container forming a cavity consisting of peripheral sides and a bottom

side for the portioned food to be placed within the cavity. The peripheral sides of the container are shielded by a microwave reflective material and the microwave reflective material of the peripheral sides defines a circumference having axial and transverse distances. These distances are determined so as to promote propagation of certain resonant modes inside the cavity and in a food portion that is placed into the cavity. (CIm. 17)

Therefore with regard to claims 1-20 Zhang et al. teaches all of the limitations.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

- Claims 1-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 17-20 of U.S. Patent No. 6777655. Although the conflicting claims are not identical, they are not patentably distinct from each other because both are drawn to a removable assembly used to create a more uniform heating of a food portion when exposed to microwaves.

Allowable Subject Matter

There is no allowable subject matter at this time.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 4661672, 4425368, 4096948, 4826072, 4661671, 3876131, 3547661, 5153402, 4505391, 4820893, 4038425, 4705929, 5288962, 5252793, 4877932, 4965424, 1955663, 3271169, JP-06237707.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Leff whose telephone number is (571) 272-6527. The examiner can normally be reached on Mon-Fri 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571)272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SL


KEITH HENDRICKS
PRIMARY EXAMINER